

# Rapid Optical Assay (ROA)



NRL, in collaboration with ThermoBioStar, Boulder, CO, has developed highly sensitive, easy to operate rapid detection devices capable of detecting multiple agents simultaneously. The devices use specific capture antibodies or PNA on thin silicon wafers to capture bioagents or DNA. Exposure of the immobilized agent or DNA to secondary probes coupled with enzyme (and subsequently exposing the complex to substrate) or colloidal gold results in a change in refractive index yield a color change which is visible with the unaided eye.

## Advantages/Features Include:

- Rapid detection (15 to 30 minutes)
- Multiple agent detection simultaneously (up to 9 agents simultaneously)
- Sensitivity (Equivalent to ELISA)
- Semi-quantitative
- Positive and negative control included in assay
- Inexpensive
- No power source needed

## Applications Include:

- Environmental Monitoring
- Food safety
- Clinical diagnostics

### *Point of Contact*

Naval Research Laboratory  
4555 Overlook Ave, SW, Washington, DC 20375-5320

CDR Tony Oyofa • Code 6106 • Chemistry Division • (202) 767-0192